

A NEW GENUS AND SPECIES OF SPELEOGNATHIDAE (ACARINA)  
FROM SOUTH AUSTRALIA

By H. WOMERSLEY \*

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SUMMARY

A new genus *Boydaia* (Acarina, Speleognathidae) is erected for certain species of mites hitherto placed in *Speleognathus* Womersley, and a new species of *Boydaia*, (*B. angelae*) from the mucus of a frog's mouth is described from South Australia.

In 1936 (Ann. Mag. Nat. Hist., (10), 18, 312), the author erected the family Speleognathidae for a very interesting new species of mite, *Speleognathus australis* Wom., found in moss and also on the surface of water in horse troughs at Glen Osmond in 1934 and 1935, by Dr. R. V. Southcott.

As all the specimens were females and from the habitat on horse troughs it was thought that in the early stages they may have been parasites in the nasal cavities of birds or cattle drinking at the troughs.

The swabbing of cattle and the examination of birds, however, failed to show any evidence of this. Further, in recent years the mites have not again been met with.

In 1948 (Proc. Ent. Soc. Washington, 50, (1), 9) Miss Elizabeth M. Boyd described another species, *S. sturni* from North America, found inhabiting the respiratory passages, but more frequently the turbinates than the trachea, of the starling, *Sturnis vulgaris* L. She also recorded it from a boat-tailed grackle *Cassidix mexicanus*. Both larvae and adults were found.

In her remarks Miss Boyd points out the close relationship of the Speleognathidae to the Ereyetidae (slug-mites), which differ in the absence of genital suckers and the posterior pair of sensory setae. Particularly did she stress the interesting fact that *S. sturni* inhabited warm, well-aerated mucous environments similar to the slimy secretions of slugs inhabited by species of *Riccardoella* of the Ereyetidae. Differences between *S. australis* and *S. sturni* were given as the presence in *sturni* of a 3-segmented palp instead of a single segment, and the absence of eyes.

The first of these characters warrants more than specific valuation, and I therefore now propose the new genus *Boydaia*, after Miss Boyd.

Genus *Boydaia* nov.

As in *Speleognathus* but with 3-segmented palpi. Mouthparts visible from above.

Type *Speleognathus sturni* Boyd 1948

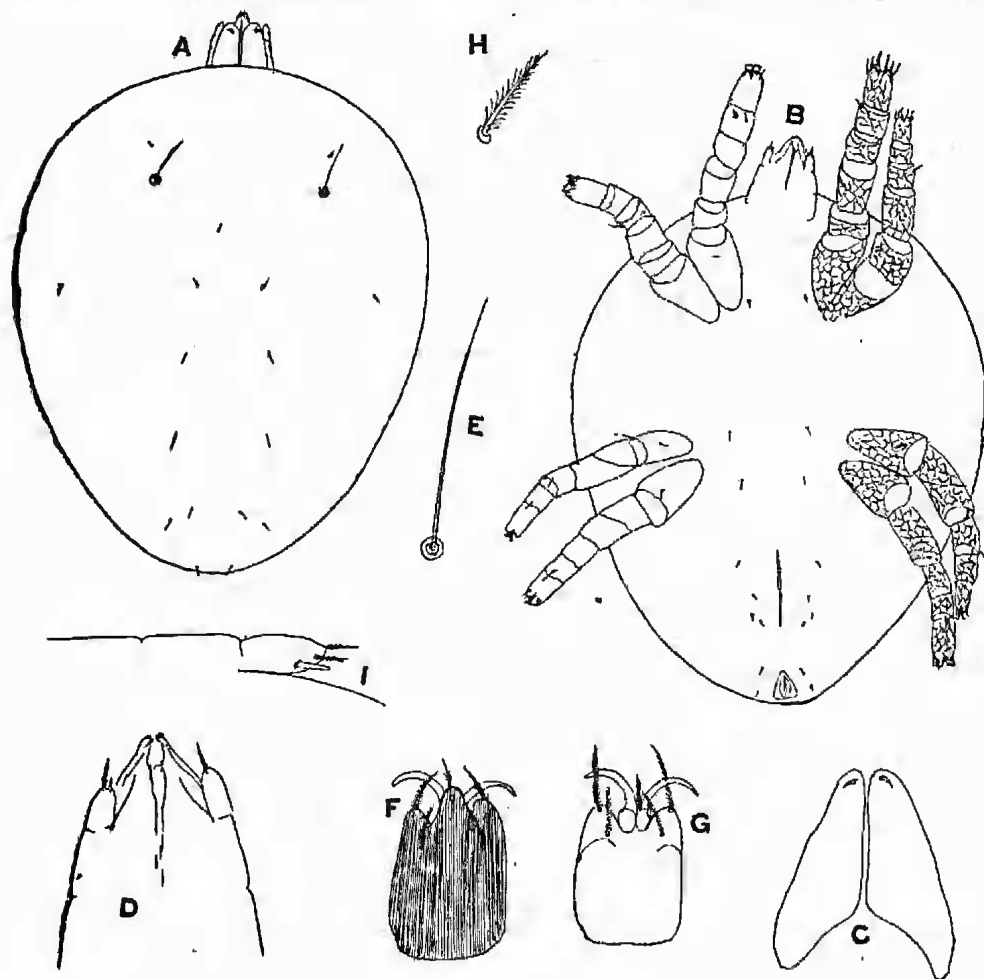
Recently I have received a single specimen of a Speleognathid collected from the mucus under the tongue of a frog, *Limnodynastes tasmaniensis* Gunther var. by Miss M. Angel of the Zoology Department, University of Adelaide, while searching for internal parasites.

Upon examination this specimen was found to have the mouthparts visible from above, a 3-segmented palp, and to lack eyes, thus agreeing generically with the species described by Miss Boyd. As, however, it differs specifically from *Boydaia sturni* (Boyd) it is described as follows as a new species.

\* South Australian Museum.

*Boydaia angelae* sp. n.

*Description*—Female. Colour whitish. Soft-bodied, without dorsal or ventral shields, cuticle with fine punctate striations. Egg-shaped, widest just in front of coxae III, length of idiosoma 580  $\mu$ , width 410  $\mu$ . Anus subterminal. Mouthparts protruding, visible from above, conical; mandibles relatively large basally, but chelicerae minute and hook-like; palpi apparently 3-segmented, but the first two segments internally ankylosed to rest of gnathosoma, terminal segment free

*Boydaia angelae* sp. n.

A, idiosoma in dorsal view; B, entire ventral view showing sclerotization of left legs; C, mandibles; D, gnathosoma from below; E, anterior sensory seta; F, tarsus I, dorsal; G, tarsus I ventral; H, leg seta; I, palp from below.

furnished with a terminal short ciliated seta, a similar but shorter seta ventrally and subapical and a ventral subapical plain sensory rod; no two pairs of minute setae on labial portion as shown for *B. sturni* have been seen. Legs short and stout, with six segments, longitudinally striated but under the cuticle with a strongly sclerotized network especially on the coxae; coxae in four pairs, legs I and II directed forwards, III and IV directed backwards, with few short ciliated setae; tarsi all apically bilobed, with paired claws, a median pad from which a short ciliated empodium arises ventrally, with a dorsal and a ventral ciliated seta

apically on each lobe, and a subapical pair of setae both dorsally and ventrally. Dorsally the idiosoma with an anterior pair of long, 42  $\mu$ , fine filamentous sensillae and nine pairs of very short ciliated setae. Ventrally with a pair of setae between coxae I, between coxae III, and between coxae IV, four on each side of genital slit and two on each side of anus. All the setae on legs, palpi and body are straight with short ciliations, and not oval and ciliated as in *B. sturni* or *Speleognathus australis* Wom.

#### Remarks

Differs from *B. sturni* (Boyd) in the sensillae being filamentous and not slightly clavate, in the partially ankylosed palpi, and the very differently formed leg and dorsal setae.

It is named in honour of Miss Madeline Angel who found the specimen.

A third species of *Boydaiia* has recently been described (J. Parasitol. 38, (5), 1952) by Dr. D. A. Crossley, Jr., under the name of *Speleognathus striatus*. In the structure and form of the palpi, it will be better placed in the new genus proposed in the present paper. In addition, Crossley points out the presence of a pair of attenuate setae anterior to the genital opening in *S. australis*, which are absent in *B. striatus*, as they are also in *sturni* and *angelae*. These setae can be regarded as a secondary generic character of *Speleognathus*. The three species of *Boydaiia* now known may be keyed as follows.

- |   |   |      |                               |
|---|---|------|-------------------------------|
| 1 | Eyes present, 1 + 1. Body both dorsally and ventrally conspicuously striated, as also are the legs and palpi                                | .... | <i>B. striatus</i> (Crossley) |
|   | Eyes absent. Body and appendages without conspicuous striations.  |      |                               |
| 2 | All palpal segments free. Sensillae lightly clavate. All setae on palpi, legs and body short and clavate                                    | .... | <i>B. sturni</i> (Boyd)       |
|   | Palpi with first two segments internally ankylosed with rest of gnathosoma. All setae on palpi legs and body straight with short ciliations | .... | <i>B. angelae</i> sp. n.      |

The hosts of *S. australis* are unknown but *B. sturni* has been found in the nasal passages of starlings (Boyd) and sparrows (Porter and Strandtmann) in America; *B. striatus* is recorded from the nasal passages of two species of doves from Texas and Georgia, U.S.A. (Crossley), while the new species herein described was from a frog.

#### REFERENCES

- BOYD, ELIZABETH M. 1948 A new mite from the respiratory tract of the Starling. Proc. Ent. Soc. Wash., 50, 9-14
- CROSSLEY, D. A., JR., 1952 Two new Nasal Mites from Columbiform birds. J. Parasitol., 38, (5), 385
- PORTER, J. C., and STRANDTMANN, R. N. 1952 Nasal mites of the English Sparrow. Texas J. Sci., No. 3, 393
- WOMERSLEY, H. 1906 On a new family of Acarina, with a description of a new genus and species. An. Mag. Nat. Hist., (10), 18, 312-315